

### Remarks

This is in response to the non-final Office Action mailed on September 28, 2004. The specification is amended to address informalities. Claims 10 and 32 are canceled without prejudice or disclaimer. Claims 1 and 23 are amended to incorporate subject matter from claims 10 and 32. In addition, claims 1, 2, 8, 11, 15, 16, 19, 23, 35, 38, and 41 are editorially amended to address informalities; none of the amendments limit the scope of these claims. Claims 1-9, 11-31, and 33-45 remain pending. Reconsideration and allowance are respectfully requested for at least the following reasons.

#### **I. Specification**

In section 3 of the Action, the specification was objected to because of informalities. The specification is amended to address the noted informalities. Reconsideration and removal of the objection are therefore respectfully requested.

#### **II. Claim Objections**

In section 4 of the Action, claims 1, 16, and 38 were objected to because of informalities. Claims 1, 16, and 38 are amended to address the informalities. None of the amendments limits the scope of these claims. Reconsideration and removal of the objection are respectfully requested.

#### **III. Claim Rejections - 35 U.S.C. § 101**

In section 6 of the Action, claims 23-45 were rejected under 35 U.S.C. § 101 because claim 23 included a data structure having no relation to physical media. Claim 23 now recites an optical watermark stored on a computer-readable medium. Reconsideration and removal of the rejection are therefore respectfully requested.

#### **IV. Claim Rejections - 35 U.S.C. § 112, First Paragraph**

In section 8 of the Action, claims 15 and 37 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the rejection states that the recitation "of sufficient difference" in these claims is not clearly defined in the

specification to allow one skilled in the art to make or use the invention. This rejection is respectfully traversed, and reconsideration is respectfully requested for at least the following reasons.

Preliminarily, it is respectfully noted that the language recited in the rejection is in claims 16 and 38. It is therefore assumed that the rejection is referring to claims 16 and 38, rather than claims 15 and 37.

Claims 16 and 38 both recite that the watermark layers are different from each other and are of sufficient difference to avoid interference between them as a result of them being superimposed. It is respectfully suggested that one skilled in the art would understand this recitation and be able to make or use the invention as described in the specification. For example, page 14, lines 11-16 and page 15, line 5 through page 16, line 17 of the present application describes how a watermark layer of the plurality of watermark layers can be decoded.

Reconsideration and allowance of claims 16 and 38 are respectfully requested.

**V. Claim Rejections - 35 U.S.C. § 112, Second Paragraph**

In sections 11-14 of the Action, claims 8, 17, 18, 30, and 38-40 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is respectfully traversed for at least the following reasons.

Regarding claims 15 and 37 in section 11, while reference is made once again in the rejection to claims 15 and 37, it is assumed that the rejection is referring to claims 16 and 38. It is respectfully suggested that the recitation in claims 16 and 38 that the watermark layers "are of sufficient difference to avoid interference between them as a result of them being superimposed" is sufficiently definite. Specifically, it respectfully asserted that one skilled in the art would understand that the term "sufficient" to modify the phrase "to avoid interference between [the watermark layers] as a result of them being superimposed."

Regarding claims 17, 18, 39, and 40 in section 12 (it is respectfully noted that claim 38 does not recite the term "counterfeit-proof"), it is respectfully suggested that one skilled in the art would understand the term "counterfeit-proof." For example, as suggested in the rejection, possible interpretations of such a term are to protect against counterfeiting or to deter counterfeiting.

Regarding claims 8 and 30 in sections 13 and 14, these claims are amended to address the lack of antecedent basis.

Reconsideration and allowance of claims 8, 16-18, 30, and 38-40 are respectfully requested in view of these amendments and remarks.

**VI. Claim Rejections - 35 U.S.C. 102**

In section 16, claims 1-4, 6-11, 13-16, 20-26, 28-33, 35-38, and 43-45 were rejected under 35 U.S.C. § 102(e) as being anticipated by Koltai et al., U.S. Patent No. 6,104,812. This rejection is respectfully traversed, and reconsideration is requested for the following reasons.

Claim 1 is directed to method for producing an optical watermark on a document. Claim 1 recites:

- determining a required plural number of watermark layers and a dot pattern for each watermark layer;
- selecting at least one latent image object for each watermark layer and embedding each latent image object into its respective watermark layer by modulation;
- superposing the watermark layers to form the watermark;
- defining and generating a decoder for each watermark layer, the decoder having a frequency and orientation; and
- applying the optical watermark to the document;
- wherein the frequency and orientation of the decoder are used to decode the at least one latent image object for each watermark layer.

The rejection identifies Figure 15 and column 4, lines 11-16 of Koltai as disclosing a plural number of watermark layers and a dot pattern for each watermark layer. The rejection apparently equates the "latent images" disclosed by Koltai with the "dot pattern" for each watermark layer recited in claim 1. This characterization is respectfully traversed. A dot pattern can be used to embed latent images therein. See Application, p. 7, ll. 19 and 20. However, a dot pattern is not equivalent to a "latent image," and Koltai fails to disclose or suggest a dot pattern for each watermark layer, as recited in claim 1.

Koltai fails to disclose or suggest embedding each latent image object into its respective watermark layer, as recited by claim 1. For example, Koltai discloses at column 4, lines 11-16

and 40-44 incorporating secondary images into a primary image. Koltai fails to disclose or suggest embedding each latent image object into its respective watermark layer, as recited by claim 1.

Further, claim 1 recites embedding each latent image object into its respective watermark layer by modulation, wherein the frequency and orientation of the decoder are used to decode the at least one latent image object for each watermark layer. The rejection cites Figure 10 of Koltai as disclosing phase modulation. This characterization of Koltai is respectfully traversed. Figure 10 of Koltai and the accompanying description at column 10, lines 4-12 disclose simply repositioning of dot 1004 into dot 1008. This repositioning of a dot disclosed by Koltai is not phase modulation, and Koltai fails to disclose or suggest embedding each latent image object into its respective watermark layer by modulation, wherein the frequency and orientation of the decoder are used to decode the at least one latent image object for each watermark layer, as recited by claim 1.

Reconsideration and allowance of claim 1, as well as claims 2-4, 6-9, 11, 13-16, and 20-22 are respectfully requested for at least these reasons.

Claim 23 is directed to an optical watermark stored on a computer-readable medium. Claim 23 recites a required plural number of watermark layers, each of the plural number of watermark layers each being a dot pattern, at least one latent image object embedded into each watermark layer by modulation, and the watermark layers being superposed to form the watermark, wherein a frequency and orientation of a decoder are used to decode the at least one latent image object for each watermark layer.

Claim 23 is allowable for at least reasons similar to those provided above with respect to claim 1. Reconsideration and allowance of claim 23, as well as claims 24-26, 28-31, 33, 35-38, and 43-45 that depend therefrom, are therefore respectfully requested.

## **VII. Claim Rejections - 35 U.S.C. § 103**

In sections 18-23 of the Action, claims 5, 12, 17-19, 27, 34, and 39-42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koltai in view of various secondary references. These rejections are respectfully traversed, and the correctness of these rejections is not conceded.

However, claims 5, 12, 17-19, 27, 34, and 39-42 all depend respectively from one of claims 1 and 23. None of the secondary references remedies the shortcomings of Koltai noted above. Therefore, claims 5, 12, 17-19, 27, 34, and 39-42 are allowable for at least the same reasons as those provided above with respect to claims 1 and 23. Reconsideration and allowance are therefore respectfully requested.

#### VIII. Conclusion

Favorable reconsideration in the form of a Notice of Allowance is respectfully requested. Please contact the undersigned attorney with any questions regarding this application.

Respectfully submitted,

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Dated: December 27, 2004

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